FIVE-YEAR REVIEW REPORT

Third Five-Year Review Report for the
Rose Park Sludge Pit
Salt Lake City, Utah

September 2002

Prepared by:

Utah Department of Environmental Quality
Division of Environmental Response and Remediation
168 North 1950 West
Salt Lake City, Utah 84116

Approved by: Date:

__*signed*-_____ _____September 19, 2002__

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LIST OF ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COCs	Contaminants of Concern
COE	U.S. Army Corp of Engineers
EPA	U.S. Environmental Protection Agency
FPH	Free-phase Hydrocarbons
ICs	Institutional Controls
ICCA	Intergovernmental/Corporate Cooperative Agreement
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PAHs	Polycyclic Aromatic Hydrocarbons
PRP	Potentially Responsible Party
RA	Remedial Action
RD	Remedial Design
RAOs	Remedial Action Objectives
RCRA	Resource Conversation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPSP	Rose Park Sludge Pit
SARA	Superfund Amendments and Reauthorization Act of 1986
SVOCs	Semivolatile Organic Compounds
TRPH	Total Recoverable Petroleum Hydrocarbons
UDEQ/DERR	Utah Department of Environmental Quality, Division of Environmental Response and Remediation
VOCs	Volatile Organic Compounds

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Rose Park Sludge Pit

EPA ID *(from WasteLAN)*: UTD980635452

Region: 8	**State:** UT	**City/County:** Salt Lake City, Salt Lake County, Utah

SITE STATUS

NPL status: W Final □ Deleted

Remediation status (choose all that apply): □ Under Construction □ Operating W Complete

Multiple OUs? □ Y ES W NO	**Construction completion date:** July 1, 1985

Has site been put into reuse? □ YES W NO

REVIEW STATUS

Reviewing agency: □ EPA W State □ Tribe □ Other

Author name: Doug Compton

Author title: Environmental Engineer	**Author affiliation:** UDEQ/DERR

Review period: June 2002 through September 2002

Date(s) of site inspection: July 10, 2002

Type of review: □ Statutory
W Policy (□ Post-SARA W Pre-Sara □ NPL-Removal only
□ Non-NPL Remedial Action Site □ NPL State/Tribe-lead
□ Regional Discretion)

Review number: □ 1(first) □ 2 (second) W 3 (third) □ Other (specify)

Triggering action:
□ Actual RA Onsite Construction at OUs
□ Actual RA Start at OU# ___
□ Construction Completion
W Previous Five-Year Review Report
□ Other (specify)

Triggering action date *(from WasteLAN)*: 8/5/97

Due date *(five years after triggering action date)*: 9/30/02

Five-Year Review Summary Form

Deficiencies:

UDEQ/DERR identified three deficiencies regarding the operation and maintenance (O&M) activities at the Rose Park Sludge Pit (RPSP):

- Free-Phase Hydrocarbons (fph): The thickness of fph in monitoring well MW-90-3S has not been monitored on a regular-basis. The product thickness was measured during the monitoring and sampling activities in 1997, 1998, 1999, and 2002; however, it was not measured in 2000 or 2001. This data is needed for evaluating the annual changes in product thickness in the vicinity of monitoring well MW-90-3S and the possible impact of the adjacent Northwest Oil Drain on the RPSP.

- Tar Seep(s): A tar seep was discovered south of the RPSP (outside of the slurry wall) on June 12, 2002. Based on analytical laboratory data and the texture of this material, UDEQ/DERR and EPA determined the tar seep is related to the RPSP. The groundwater monitoring data does not indicate that waste material has been released from the RPSP. Therefore, UDEQ/DERR and EPA assume these tar seeps are isolated sources of waste material that periodically migrate to the surface. Other tar seeps have been reported in this general vicinity during past site inspections; however, BP has not taken any corrective action in the past to address these tar seeps.

- Institutional Controls: The institutional controls (ICs) for the RPSP are included in the Intergovernmental/Corporate Cooperation Agreement (ICCA). This agreement prevents any excavation activities or the installation of any underground utilities on-site. Paragraph 15 of the ICCA also required the Salt Lake City Corporation to record this agreement in the chain-of-title for this property. However, there were no records of the ICCA or any deed restrictions for the RPSP at the Salt Lake County Recorders Office.

These deficiencies do not warrant a finding of nonprotectiveness; however, BP shall address these deficiencies per the Recommendations and Follow-Up Actions listed below.

Recommendations and Follow-up Actions:

The deficiencies identified above regarding O&M activities at the RPSP shall be addressed as follows:

- Free-Phase Hydrocarbons: BP shall measure the thickness of the fph in monitoring well MW-90-3S during each groundwater monitoring and sampling event and report this data to UDEQ/DERR and EPA in the Annual Report. BP shall also discuss the annual changes in product thickness in the vicinity of monitoring well MW-90-3S and the possible impact of the adjacent Northwest Oil Drain on the RPSP in these reports.

- Tar Seep(s): BP shall address the tar seep on the south side of the RPSP as specified in the letter to UDEQ/DERR and EPA dated June 24, 2002. This letter indicates BP will remove the top two feet of waste material, dispose of the waste material according to all local, state, and federal regulations, replace the waste material with clean fill, and revegetate the disturbed area. During future quarterly site inspections, BP shall inspect the perimeter of the RPSP—100 feet beyond the guardrail and fence—to determine if any additional tar seeps have surfaced. If a tar seep is observed outside the slurry wall, BP shall notify UDEQ/DERR and EPA within 48-hours of discovery and address the seep as specified above.

- Institutional Controls: BP shall coordinate with the Salt Lake City Corporation to record the ICCA in the chain-of-title for the property at the Salt Lake County Recorders Office. Recording the ICCA would provide a public record of the ICs for the site and background information on the RPSP in the event the property is sold.

Protectiveness Statement(s):

The remedy at the RPSP is protective of human health and the environment. The cap is in good condition, which prevents any exposure to the waste material in the repository. A chain-link fence and guardrail have been installed around the perimeter of the repository and caution signs have been placed on each side of the repository to warn park visitors of the RPSP. Groundwater monitoring data indicate the waste material remains contained within the repository. The ICs for the RPSP prevent any excavation activities or the installation of any underground utilities on-site.

Executive Summary

The Utah Department of Environmental Quality, Division of Environmental Response and Remediation (UDEQ/DERR) conducted a Five-Year Review of the remedy implemented at the Rose Park Sludge Pit (RPSP) located in Salt Lake City, Utah. The review was conducted from June 2002 to September 2002.

Utah Oil and Refining Company disposed of acidic waste sludges in an unlined pit on-site from the 1930s until 1957. The site was listed on the NPL on September 8, 1983. The remedy—completed in 1984—consisted of containing the waste sludge within a slurry wall and capping the sludge pit with an engineered cover. Groundwater monitoring, site inspections, and institutional controls (ICs) were also incorporated into the remedy (GeoWest Golden, Inc., October 14, 1992).

This is the third Five-Year Review conducted at the RPSP. The first two Five-Year Reviews were completed on June 1, 1992 and August 5, 1997, respectively. Policy reviews are required at the RPSP every five years because remedial activities were completed prior to the passage of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and waste material was left on-site, which prevents unrestricted exposure and unlimited use of the site.

UDEQ/DERR identified three deficiencies regarding the operation and maintenance (O&M) activities at the RPSP during this Five-Year Review:

- The thickness of free-phase hydrocarbons (fph) in monitoring well MW-90-3S has not been monitored on a regular-basis. BP shall measure the fph in this monitoring well during each groundwater monitoring and sampling event.
- A tar seep was discovered south of the RPSP (outside of the slurry wall) on June 12, 2002. BP shall remove the top two feet of this tarry waste material, dispose of the waste material according to all local, state, and federal regulations, replace the waste material with clean fill, and revegetate the disturbed area. Future tar seeps should also be addressed in a similar manner.
- The Intergovernmental/Corporate Cooperation Agreement (ICCA)—which includes the ICs for the RPSP—has not been recorded at the Salt Lake County Recorders Office. BP shall coordinate with the Salt Lake City Corporation to record the ICCA in the chain-of-title for the property.

These deficiencies do not warrant a finding of nonprotectiveness; however, BP shall address these three deficiencies per the recommendations included in this report.

Based on the findings of this Five-Year Review, the containment remedy at the RPSP is functioning as intended and is protective of human health and the environment. The cap is in good condition, which prevents any exposure to the waste material in the repository. Groundwater monitoring data indicate the waste material remains contained within the repository. The ICs for the RPSP prevent any excavation activities or the installation of any underground utilities on-site.

1.0 INTRODUCTION

The Utah Department of Environmental Quality, Division of Environmental Response and Remediation (UDEQ/DERR) conducted a Five-Year Review of the remedy implemented at the Rose Park Sludge Pit (RPSP) located in Salt Lake City, Utah. The review was conducted from June 2002 to September 2002.

The purpose of the Five-Year Review is to determine whether the remedy at the site is protective of human health and the environment. The methods, findings, and conclusions of the review are documented in this report. This review was conducted in accordance with EPA's Comprehensive Five-Year Review Guidance (EPA document number 540-R-01-007, June 2001).

This review is required by policy. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) require that reviews be conducted every five years to assure that the remedial action implemented remains protective of human health and the environment. The following requirements are included in CERCLA Section 121(c), as amended:

> "*If the President selects a remedial action that results in any hazardous substance, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than every five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.*"

The NCP also includes the following requirements regarding Five-Year Reviews (40 CFR Part 300.430(f)(4)(ii)):

> "*If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*"

This is the third Five-Year Review conducted at the RPSP. The first two Five-Year Reviews were completed on June 1, 1992 and August 5, 1997, respectively. The triggering action for this review was the completion date of the previous Five-Year Review Report (August 5, 1997). Although not required by statute, policy reviews are conducted at the RPSP every five years because remedial activities were completed prior to the passage of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and waste material was left on-site, which prevents unrestricted exposure and unlimited use of the site.

2.0 SITE CHRONOLOGY

A chronology of site activities from the 1930s to the present is listed below:

Date	*Activity*
1930s - 1957	Utah Oil and Refining Company disposed of acidic waste sludges on-site. This waste material was generated from the petroleum refinery located east of the site.
1957	Salt Lake City purchased the property.
1960	40 to 100 truckloads of waste sludge were removed from the site and the remaining waste material was covered with a soil cap.
1976	Salt Lake City rediscovered the waste disposal site during expansion of the adjacent city park.
1979 - 1981	EPA and Amoco conducted Remedial Investigation activities on-site.
October 29, 1982	Salt Lake City Corporation, Salt Lake City/County Health Department, the Utah State Department of Health, EPA, and Amoco Oil Company signed the Intergovernmental/Corporate Cooperation Agreement (ICCA). The ICCA required Amoco to conduct remedial activities on-site.
September 8, 1983	The site was considered the State of Utah's top priority and listed on the NPL.
1982 - 1984	Amoco conducted remedial activities, which included constructing a bentonite slurry wall around the perimeter of the site and capping the waste material. Following remedial activities, Salt Lake City Corporation was responsible for conducting O&M activities for 30 years. O&M activities included site inspections and groundwater monitoring and sampling.
June 1, 1992	EPA prepared the first Five-Year Review Report.
June 17, 1992	EPA prepared the Final Closeout Report.
1992	Amoco prepared the "*Groundwater Monitoring and Sampling and Analysis Plan*" (October 14, 1992) and "*Operation and Maintenance Plan*" (December 28, 1992) and took over O&M activities from Salt Lake City Corporation.
August 5, 1997	EPA prepared the second Five-Year Review Report.

3.0 BACKGROUND

The RPSP is located in Salt Lake City, Utah at approximately 1300 North Boy Scout Drive (1200 West). The site is bordered by vacant, undeveloped land to the north and Rose Park to the east, west, and south (Figure 1). Rose Park is maintained by Salt Lake City Corporation and includes tennis courts, baseball and soccer fields, picnic areas, parking lots, and restrooms. Residential neighborhoods are located south of Rose Park.

Utah Oil and Refining Company disposed of acidic waste sludges in an unlined pit on-site from the 1930s until 1957. This waste material was generated from the petroleum refinery located east of the site. Salt Lake City purchased the property in 1957 to prevent further dumping of the waste material. In 1960 Salt Lake City Corporation removed 40 to 100 truck-loads of sludge and covered the remaining waste sludge with a soil cap.

Salt Lake City rediscovered the waste disposal site in 1976 during expansion of the adjacent city park. Due to state and local concerns, EPA and Amoco conducted a number of site investigations between 1979 and 1981. The sludge pit covered an area of approximately 5.5 acres and the waste material was found as deep as 20 feet below ground surface (bgs). The shallow, unconfined aquifer was approximately eight to ten feet bgs and flowed towards the northwest. Because the site was considered the State of Utah's top priority, it was listed on the NPL on September 8, 1983.

4.0 REMEDIAL ACTIONS

Salt Lake City Corporation, Salt Lake City/County Health Department, the Utah State Department of Health, EPA, and Amoco Oil Company signed an Intergovernmental/Corporate Cooperation Agreement (ICCA) on October 29, 1982. The ICCA required Amoco to conduct remedial activities on-site, which included constructing a bentonite slurry wall around the perimeter of the site and capping the waste material. The primary objectives of the containment remedy was to prevent exposure to the acid waste sludge, eliminate potentially unhealthy odors and vapors, and prevent off-site migration of the sludge through surface water and groundwater. No specific cleanup goals were established for the site.

Amoco conducted remedial activities at the RPSP between 1982 and 1984. First, a two-foot wide and 30-feet deep bentonite slurry wall was constructed around the perimeter of the site. This wall was installed ten feet below the deepest known contamination. Construction of the slurry wall was completed on January 17, 1983. Following installation of the slurry wall, Amoco constructed a cap over the waste material. This protective cover included a sand layer, fabric membrane, compacted clay layer, and 18-inches of soil. Placement of the cap was completed on July 22, 1983. The surface of the cap was then graded to control surface water run-on and run-off. The final seeding of the topsoil was completed in the spring of 1984. Lastly, vehicular barriers and warning signs were placed around the perimeter of the repository in October 1984. The repository, slurry wall, and monitoring well locations are shown on Figure 2.

The U.S. Army Corps of Engineers (COE) provided construction oversight for the EPA. The COE indicated in their progress reports that the slurry wall and cap were constructed according to the design and there were no deficiencies. EPA also determined the remedy—as designed and implemented—was protective of human health and the environment.

ICs and O&M requirements for the RPSP were also included in the ICCA. The ICs for the RPSP prevented any excavation activities or the installation of any underground utilities on-site. The O&M activities at the RPSP included groundwater monitoring and sampling, site inspections, and well integrity testing. Salt Lake City Corporation conducted O&M activities from 1984 through 1992. Because the EPA, State of Utah, and Amoco identified several deficiencies regarding O&M activities during this time period, Amoco took over the responsibility of O&M from the Salt Lake City Corporation in 1992. Since taking over this duty in 1992, BP/Amoco have documented the O&M activities from each year in an annual report.

5.0 PROGRESS SINCE LAST REVIEW

This is the third Five-Year Review for the RPSP. Previous reviews were completed on June 1, 1992 and August 5, 1997, respectively. The following Statement of Protectiveness was included in the last Five-Year Review Report (August 5, 1997): "*I certify that the remedies selected for this site, as presently fully implemented, will remain protective of human health and the environment*." No areas of noncompliance were identified; however, EPA had four recommendations regarding the RPSP in the last Five-Year Review Report. The recommendations from the report are listed below in italics and BP's follow-up actions are listed after each recommendation:

1. "*Continue inspection and maintenance of the cap to prevent overpopulation from gophers, to prevent establishment of trees, and to clean up trash*."

   BP inspected the repository, cap, vent pipe, monitoring wells, and on-site drainage quarterly during the last five years. BP removed gophers and deep-rooted plants, shrubs, and trees as necessary to protect the integrity of the repository and cap. Salt Lake City maintains the adjacent city park and provides solid waste collection services. These inspections and response actions are documented in the annual reports that are submitted to UDEQ/DERR and EPA each year.

2. "*Consider ways to enhance the utility of the land as a portion of the adjacent city park*."

   BP and Salt Lake City have discussed many possible development options for the RPSP during the last five years. These ideas have ranged from expanding the adjacent Rose Park to include the RPSP to creating a natural area with footpaths, interpretive signs, and wild flowers. However, no plans have been developed for a beneficial reuse of this site.

3. "*Continue monitoring the groundwater, pH is particularly important*."

   Per the O&M Manual, BP conducted semiannual groundwater monitoring and sampling in 1997 and annual groundwater monitoring and sampling from 1998 to 2002 (GeoWest Golden, Inc., December 28, 1992). Groundwater monitoring and sampling activities included measuring the depth to groundwater and collecting groundwater samples from 20 monitoring wells. Groundwater samples were analyzed for volatile organic compounds, semivolatile organic compounds, and total recoverable petroleum hydrocarbons. BP also measured pH and specific conductance during the monitoring and sampling activities.

4. "*Monitoring strategy - The participants in the site visit all agreed that a full suite of Skinner analytes in two upgradient wells and two downgradient wells should suffice to assess the protectiveness of the remedy for the 5 year review*."

   The groundwater from four monitoring wells was analyzed for the full suite of Skinner List analytes during the last monitoring and sampling event (March 2002).

UDEQ/DERR was only able to identify one other issue regarding site progress at the RPSP: the site has not been deleted from the National Priorities List (NPL) of Superfund sites even though it has been eligible for site deletion since the mid-1980s. EPA proposed to delete this site from the NPL several years ago; however, UDEQ/DERR had several concerns regarding the remedial activities that were conducted on-site and did not support site deletion. BP approached UDEQ/DERR and EPA again this year about the possibility of deleting the RPSP from the NPL. UDEQ/DERR raised many of the same concerns; however, BP was able to address each of these concerns. BP provided the following documentation in a letter dated June 20, 2002, which addressed each of UDEQ/DERR's concerns:

- The COE conducted construction oversight for EPA during the remedial activities on-site. The most accurate set of construction drawings for the RPSP are included in the field notes from the COE. Although these field notes are not "as-built drawings" stamped by a professional engineer, these notes are accurate and provide sufficient detail regarding the construction activities at the RPSP. The COE also noted that construction activities were completed per the design specifications and there were no deficiencies.

- The COE indicated in their field notes that waste material encountered during trenching activities were excavated and placed in the repository or disposed of properly.

- The laboratory results from all twenty monitoring wells (with the exception of MW-90-3S) indicate the shallow and deep aquifers were below the MCLs for organic and inorganic parameters during the last five years. Free-phase hydrocarbons have been observed on a regular-basis in monitoring well MW-90-3S. However, EPA attributed this free product to the Northwest Oil Drain, which is located on the south and west sides of the site (EPA, June 1, 1992).

- BP will continue conducting O&M activities after the site has been delisted.

Because BP was able to address all of UDEQ/DERR's concerns regarding the remedial activities that were conducted on-site, it is anticipated that deletion of the site from the NPL will occur in the near future. Correspondence regarding site deletion is included in Appendix C.

6.0 FIVE-YEAR REVIEW PROCESS

6.1 Administrative Components

UDEQ/DERR was the lead agency for conducting this Five-Year Review and preparing this report. EPA and BP supported UDEQ/DERR during the review process. The following individuals assisted in the Five-Year Review for the RPSP:

- Doug Compton - UDEQ/DERR Project Manager;
- Dave Allison - UDEQ/DERR Community Involvement Coordinator;
- Russ Leclerc - EPA Project Manager;
- Rebecca Thomas - EPA Post-Construction Coordinator; and
- Mark Roginske - RETEC Project Manager (BP's engineering consulting firm).

The Five-Year Review included the following activities: reviewing the annual reports and laboratory data from the previous five years, conducting a site inspection, conducting community involvement activities, reviewing the ICs for the site, and preparing this technical report.

6.2 Data/Document Review

BP conducted semiannual groundwater monitoring and sampling in 1997 and annual groundwater monitoring and sampling in 1998-2002. Groundwater monitoring and sampling activities included measuring the depth to groundwater, measuring water quality parameters, and collecting groundwater samples from 20 monitoring wells. BP also conducted quarterly site inspections and annual well integrity testing. This data is included in the annual reports from 1997 – 2001 and the groundwater monitoring and sampling results from March 2002, which UDEQ/DERR reviewed for the Five-Year Review.

Groundwater Monitoring and Sampling

BP measured the depth to groundwater in each well during the groundwater monitoring and sampling activities (See Tables 1 – 7). The water-level data from the shallow aquifer was evaluated separately from the deep aquifer. However, the groundwater in both aquifers generally flows to the northwest and there have been only minor seasonal fluctuations in these groundwater elevations. The groundwater elevations and contours for both aquifers for the review period are shown on Figures 3 – 16. BP noted that

monitoring wells on the west side of the site do not show the characteristic artesian pressure that is found in deeper wells on the east and north sides of the site (ThermoRetec Consulting Corporation, April 14, 2001). Therefore, the contours for the deep aquifer are based on groundwater elevations from only three monitoring wells: GW-92-2G, GW-92-4G, and MW-90-1D.

Groundwater samples were analyzed for volatile organic compounds, semivolatile organic compounds, and total recoverable petroleum hydrocarbons. The laboratory results for all twenty monitoring wells (with the exception of MW-90-3S) indicate the shallow and deep aquifers were below the MCLs for organic and inorganic parameters during the last five years. Groundwater samples were not collected from monitoring well MW-90-3S due to the presence of fph. The product thickness in this well has varied from 2.72 to 3.92 feet during the last five years. EPA attributed this free product to the Northwest Oil Drain, which is located on the south and west sides of the site (U.S. EPA, June 1, 1992). The analytical laboratory data and product thickness from each sampling event is summarized in Tables 8 – 14.

BP also measured pH and specific conductance from each well during the monitoring and sampling activities. This data is included in Tables 8 – 14. pH is an especially important parameter because the waste material in the RPSP is acidic. BP evaluated the pH data each year to determine if there had been a release of waste material from the repository. Based on this evaluation, there has not been a statistical decrease in pH downgradient of the site (See Table 15 and Table 16). BP has also graphed the pH data in each well over time. The pH data from the shallow aquifer is presented on Graph 1; and the pH data from the deep aquifer is presented on Graph 2.

Monitoring Well Integrity Testing

BP conducted monitoring well integrity testing in 1997 – 2000 and 2002. The testing consisted of measuring the depth to groundwater prior to testing, removing 0.5 gallons of water from each well, and measuring the depth to groundwater 8-hours after removing the water. The water level in monitoring well GW-92-1G should recover to within 3.00 feet of the initial measurement; and the water level in each of the other monitoring wells should recover to within 0.33 feet of the initial measurement. All of the wells at the RPSP passed the integrity testing during the last five years.

Site Inspections

BP conducted quarterly site inspections of the RPSP during the last five years. The cap was generally in good condition during each of these inspections and supported a variety of grasses and weeds. There were no signs of waste material or surficial erosion. Rodent activity was noted on the cap in 1997 – 1999 and 2001; however, these burrows were only a few inches deep and there was no sign of clay or sand from the engineered cap. Trees and deep-rooted plants and shrubs were removed during routine maintenance. Fencing, caution signs, and monitoring wells were repaired during routine maintenance. BP was only required to repair the repository on one occasion. On May 14, 2001 a hole was discovered on the east side of the RPSP. This hole was located outside of the slurry wall but within the guardrail for the site. There were no signs of tarry waste or cap material in the hole. Apparently, an irrigation pipe from the adjacent city park broke, which caused the hole. This pipe was repaired on the same day, and the hole was backfilled with clean soil from the city park.

6.3 Site Inspection

UDEQ/DERR, EPA, and RETEC conducted a site inspection for the Five-Year Review on July 10, 2002. Doug Compton (UDEQ/DERR Project Manager), Russ Leclerc (EPA Project Manager), and Mark Roginske (RETEC Project Manager) were present during the inspection. The purpose of the site inspection was to evaluate current site conditions and the protectiveness of the containment remedy. Photographs of the RPSP and adjacent properties were taken on June 13, 2002 and June 27, 2002 to document current site conditions. These photographs are included in Appendix A.

The cap was in good condition. Surface water appeared to be draining off the cap as designed; and the cover material (grasses and weeds) was preventing any surficial erosion. There were no signs of burrowing animals or deep-rooted plants, shrubs, and trees that could affect the integrity of the cap.

All twenty monitoring wells on-site were secured and in good condition. The caution signs that warn park visitors of the RPSP were present on each side of the site.

The chain-link fence and guardrail that were installed around the perimeter of the repository were in good condition with one exception. There were two holes in the fence on the north side of the repository. BP has repaired the fence several times during the last five years; however, trespassers continue to remove this section of fence to access the site. Therefore, BP is planning to open up a gate in the northwest corner of the site and repair the two holes. This will provide public access to the site (and the adjacent city park) and prevent the fence from being vandalized in the future. The containment remedy at the RPSP was designed to allow public access; therefore, opening this gate will not compromise the integrity of the remedy or threaten public health.

A tar seep on the south side of the repository was inspected. The seep was approximately two feet in diameter and had an asphalt-like texture. RETEC discovered this tar seep during a routine site inspection on June 12, 2002. Apparently, other tar seeps have been reported in this general vicinity during past site inspections; however, no corrective action has been taken to address these tar seeps. These tar seeps reportedly migrate to the surface and disappear periodically. UDEQ/DERR and EPA assume this tar seep is an isolated source of waste material that was previously unknown; therefore, it was not addressed during the remedial activities for the site. BP is planning to remove and dispose of the top two feet of this waste material, replace the waste material with clean fill, and revegetate the disturbed area. If future tar seeps are discovered on-site, BP will address the waste material in a similar manner. Correspondence regarding these tar seeps is included in Appendix C.

The land use adjacent to the RPSP has not changed since the last Five-Year Review in 1997. The property to the north of the site remains undeveloped; whereas, Rose Park is located on the east, west, and south sides of the site. This park is used for soccer, volleyball, baseball, tennis, and picnics.

6.4 Community Involvement

Community involvement activities for the Five-Year Review consisted of contacting the Rose Park Community Council (RPCC) and placing a public notice in a RPCC meeting agenda.

UDEQ/DERR contacted the RPCC to determine if they had any comments or concerns regarding the RPSP. The community council did not have any concerns regarding the ongoing O&M activities or the current site conditions and did not know of any community members that had any site-related concerns. However, the community council did support EPA's proposal to delete the site from the NPL.

UDEQ/DERR placed a public notice in the agenda for the September meeting of the RPCC. This agenda was mailed out to approximately 400 residents in the Rose Park community. The notice indicated that UDEQ/DERR and EPA were conducting a Five-Year Review at the RPSP and provided the public an opportunity to participate in the review process. However, UDEQ/DERR did not receive any comments regarding the Five-Year Review. A copy of this notification is included in Appendix B. Following approval of the Five-Year Review Report, UDEQ/DERR will forward a second public notice to the RPCC for inclusion in an upcoming meeting agenda. This notice will include a brief summary of the report and the locations where the report may be reviewed (UDEQ/DERR, Salt Lake City, Utah and EPA Superfund Records Center, Denver, Colorado).

6.5 Institutional Controls

UDEQ/DERR reviewed the ICs for the RPSP, which are included in the ICCA. This five-party agreement between Salt Lake City, Salt Lake City/County Health Department, Utah Sate Health Department, EPA, and Amoco Oil Company prohibits any excavation activities on-site. The ICCA states the following regarding maintenance and excavation activities on-site:

> "*The City shall assure reasonable maintenance, supervision and care of the site during the term of this Agreement and shall require that no underground pipes, lines, conduits, cables, irrigation systems, or the like, are installed over through or within three feet of the slurry wall and cap. If the City transfers the site it shall covenant with the purchaser to have the purchaser provide such maintenance, supervision and care and to prevent construction of such underground installations*."

The ICCA also required the Salt Lake City Corporation to record this agreement in the chain-of-title for the property. EPA indicated in the first Five-Year Review that the ICCA was not included in the chain-of-title for the RPSP (U.S. EPA, June 1, 1992). Therefore, UDEQ/DERR conducted a title search for the property at the Salt Lake County Recorders Office on August 21, 2002 to determine if this agreement had been recorded. There was no record of the ICCA or any deed restrictions for the RPSP. This agreement should be recorded with the Salt Lake County Recorders Office to document the ICs for the site and provide background information on the RPSP in the event the property is sold.

Even though the ICCA has not been recorded in the chain-of title for the property, the ICs for the RPSP have been successful up to this point. There have been no excavation activities at the RPSP that could potentially compromise the integrity of the repository.

7.0 TECHNICAL ASSESSMENT

This section includes a technical assessment of the remedial action and operation and maintenance activities that have been conducted at the RPSP. Three questions are used to evaluate the overall protectiveness of the remedy. These questions are followed by a "*yes*" or "*no*" answer and a justification for the given answer. A summary of the technical assessment follows the three questions.

Question A: Is the remedy functioning as intended by the decision documents? - ***YES***

> The containment remedy that was implemented at the RPSP is functioning as intended. The cap is in good condition and supports a variety of grasses and weeds, which prevents any exposure to the waste material in the repository. Surface water appears to be draining off the cap as designed; and the cover material is preventing any surficial erosion. Gophers and deep-rooted plants, shrubs, and trees are removed as necessary to protect the integrity of the repository and cap. A chain-link fence and guardrail are located around the perimeter of the repository, which prevents

vehicular access on the cap. Caution signs have been placed on each side of the repository to warn park visitors of the RPSP. Groundwater monitoring data indicate the waste material remains contained within the repository.

The ICs for the RPSP prevent any excavation activities or the installation of any underground utilities on-site. These ICs have been successful up to this point since there have been no excavation activities at the RPSP that could potentially compromise the integrity of the repository.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy still valid? - ***YES***

There have been no newly promulgated or modified standards that would significantly change the protectiveness of the remedy that was implemented at the site. Changes in toxicity data and risk assessment methodologies since remedial action was conducted on-site in 1982 – 1984 do not call into question the protectiveness of the remedy.

The land use adjacent to the RPSP has not changed since remedial action was conducted on-site. Rose Park is located on the east, west, and south sides of the site; and the property to the north of the site remains undeveloped. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.

The cap is in good condition, which prevents any exposure to the waste material in the repository; and the groundwater data for the last five years indicate the shallow and deep aquifers were below the MCLs for organic and inorganic parameters. Therefore, the containment remedy that was implemented at the RPSP is functioning as intended.

A small, isolated tar seep was discovered south of the RPSP (outside of the slurry wall) on June 12, 2002. BP is planning to remove and dispose of the top two feet of this waste material, replace the waste material with clean fill, and revegetate the disturbed area. If future tar seeps are discovered on-site, BP will address the waste material in a similar manner. Historic groundwater data near this tar seep have been below MCLs for organic and inorganic parameters, which indicates the slurry wall is functioning as intended. Therefore, UDEQ/DERR and EPA assume this is an isolated source of waste material that was not addressed during the original remedial action activities. The proposed corrective action measures will prevent any exposure to the waste material. This issue is discussed in more detail in Section 8.0 (Issues) and Section 9.0 (Recommendations and Follow-Up Actions).

Question C: Has any other information come to light that could call into question the protectiveness of the remedy? - ***NO***

No additional information has been identified that would call into question the protectiveness of the remedy.

Technical Assessment Summary

Based on the technical assessment above, the containment remedy that was implemented at the RPSP is functioning as intended. The cap is in good condition. Gophers and deep-rooted plants, shrubs, and trees are removed as necessary to protect the integrity of the repository and cap. A chain-link fence and guardrail have been installed around the perimeter of the repository and caution signs have been placed on each side of the repository to warn park visitors of the RPSP.

Groundwater monitoring data indicate the waste material remains contained within the repository. The ICs for the RPSP prevent any excavation activities or the installation of any underground utilities on-site.

8.0 ISSUES

UDEQ/DERR identified three deficiencies regarding the O&M activities at the RPSP:

- Free-Phase Hydrocarbons: The thickness of fph in monitoring well MW-90-3S has not been monitored on a regular-basis. The product thickness was measured during the monitoring and sampling activities in 1997, 1998, 1999, and 2002; however, it was not measured in 2000 or 2001. This data is needed for evaluating the annual changes in product thickness in the vicinity of monitoring well MW-90-3S and the possible impact of the adjacent Northwest Oil Drain on the RPSP.

- Tar Seep(s): A tar seep was discovered south of the RPSP (outside of the slurry wall) on June 12, 2002. Based on analytical laboratory data and the texture of this material, UDEQ/DERR and EPA determined the tar seep is related to the RPSP. The groundwater monitoring data does not indicate there was a release of waste material from the RPSP. Therefore, UDEQ/DERR and EPA assume this tar seep is an isolated source of waste material that migrated to the surface. Other tar seeps have been reported in this general vicinity during past site inspections; however, BP has not taken any corrective action to address these tar seeps.

- Institutional Controls: The ICs for the RPSP are included in the ICCA. This agreement prevents any excavation activities or the installation of any underground utilities on-site. Paragraph 15 of the ICCA also required the Salt Lake City Corporation to record this agreement in the chain-of-title for this property. However, there were no records of the ICCA or any deed restrictions for the RPSP at the Salt Lake County Recorders Office.

These deficiencies do not warrant a finding of nonprotectiveness; however, BP shall address these deficiencies per the recommendations included in Section 9.0, Recommendations and Follow-Up Actions.

9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

UDEQ/DERR identified three deficiencies regarding the O&M activities at the RPSP in Section 8.0, Issues. These deficiencies shall be addressed as follows:

- Free-Phase Hydrocarbons: BP shall measure the thickness of the fph in monitoring well MW-90-3S during each groundwater monitoring and sampling event and report this data to UDEQ/DERR and EPA in the Annual Report. BP shall also discuss the annual changes in product thickness in the vicinity of monitoring well MW-90-3S and the possible impact of the adjacent Northwest Oil Drain on the RPSP in these reports.

- Tar Seep(s): BP shall address the tar seep on the south side of the RPSP as specified in the letter to UDEQ/DERR and EPA dated June 24, 2002. This letter indicates BP will remove the top two feet of waste material, dispose of the waste material according to all local, state, and federal regulations, replace the waste material with clean fill, and revegetate the disturbed area. During future quarterly site inspections, BP shall inspect the perimeter of the RPSP—100 feet beyond the guardrail and fence—to determine if any additional tar seeps have surfaced. If a tar seep is observed outside the slurry wall, BP shall notify UDEQ/DERR and EPA within 48-hours of discovery and address the seep as specified above.

- Institutional Controls: BP shall coordinate with the Salt Lake City Corporation to record the ICCA in the chain-of-title for the property at the Salt Lake County Recorders Office. Recording the ICCA would provide a public record of the ICs for the site and background information on the RPSP in the event the property is sold.

10.0 PROTECTIVENESS STATEMENT

The remedy at the RPSP is protective of human health and the environment. The cap is in good condition, which prevents any exposure to the waste material in the repository. A chain-link fence and guardrail have been installed around the perimeter of the repository and caution signs have been placed on each side of the repository to warn park visitors of the RPSP. Groundwater monitoring data indicate the waste material remains contained within the repository. The ICs for the RPSP prevent any excavation activities or the installation of any underground utilities on-site.

11.0 NEXT REVIEW

Policy reviews are required at the RPSP every five years because waste material was left on-site and remedial activities were completed prior to the passage of SARA. Therefore, the next Five-Year Review for this site will be conducted by September 30, 2007.

12.0 REFERENCES

GeoWest Golden, Inc.; October 14, 1992; *Rose Park Waste Disposal Site Groundwater Monitoring Program Sampling and Analysis Plan*.

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Group Environmental Management Company; June 24, 2002; *Proposed Procedures for Managing Tar-Like Material at the Rose Park Waste Disposal Site*.

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The RETEC Group, Inc.; May 30, 2002; *Transmittal of the March 2002 Field Data and Analytical Results for the Rose Park Waste Disposal Site*.

The RETEC Group, Inc.; June 20, 2002; *Response to Concerns Regarding Deletion of the Rose Park Waste Disposal Site*.

ThermoRetec Consulting Corporation; April 15, 1999; *Rose Park Waste Disposal Site Annual Report for 1998*.

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U.S. EPA; October 29, 1982; *Intergovernmental/Corporate Cooperation Agreement for the Rose Park Waste Disposal Site.*

U.S. EPA; June 1, 1992; *Rose Park Sludge Pit Superfund Site Five-Year Review Report*.

U.S. EPA; June 17, 1992; *Rose Park Sludge Pit Superfund Site Close Out Report*.

U.S. EPA; August 5, 1997; *Rose Park Sludge Pit Superfund Site Five-Year Review*.

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